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Notice of Allowability	Application No.	Applicant(s)	
	10/808,020	DO ET AL.	
	Examiner	Art Unit	
	Kevin M. Bernatz	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to interview of 4/20/06.
2. ☒ The allowed claim(s) is/are 15,17-29.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>04272006</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

Examiner's Amendment

1. An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Mr. Thomas Berthold on April 20, 2006.

The application has been amended as follows:

- Claim 15, line 12: the word "substantially" was deleted;
- Claim 23, line 3: the phrase "no Pt" was replaced with the phrase "less than 10 atomic % Pt";
- Claim 28, line 6: after "structure", the following phrase was inserted:
"comprising an identical upper ferromagnetic layer";
 - Claim 28, line 18: the phrase "substantially equal to Mrt(UL) of said AFC reference recording layer" was deleted;
 - Claim 28, line 21: the phrase "the sum of Mrt(LL1) and Mrt(LL2) is greater than Mrt(SLL-Max) was replaced with the following phrase:
"each of said first and second lower ferromagnetic layers has a Mrt value up to Mrt(SLL-Max)"; and
- Claim 29, line 3: the phrase "no Pt" was replaced with the phrase "less than 10 atomic % Pt".

Reasons for Allowance

3. The present claims are deemed allowable over the reference US '498 A1 since the reference is commonly assigned and a terminal disclaimer has been filed to obviate the obviousness-type double patenting rejection.

4. The present claims are deemed allowable over the references of record since the references of record fail to disclose or render obvious a magnetic recording disk comprising a AFC recording layer meeting both the claimed relative Mrt values and intrinsic coercivity values.

While the prior art of record disclose magnetic recording media possessing AFC recording layer structures with 3+ magnetic layers, the prior art of record fail to teach or render obvious embodiments wherein the first lower, second lower and upper magnetization directions meet the claimed limitations in each remanent state while also meeting the claimed Mrt and intrinsic coercivity limitations. The Examiner agrees with applicants' arguments that Honda et al. teach away from the claimed invention since, as noted by applicants, Honda et al. teach that the substitution of a single layer with multiple ferromagnetically coupled layers results in higher coercivity while the claimed invention requires the ferromagnetically coupled layers to possess an intrinsic coercivity less than that of the upper ferromagnetic layer. The Examiner also notes that Mrt and intrinsic coercivity are not inherent to generic magnetic layers since both Mrt and intrinsic coercivity values are easily manipulated by changing processing parameters such as deposition conditions, underlayers, layer thickness values and elemental composition.

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5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

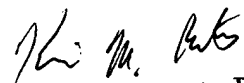
Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Bernatz whose telephone number is (571) 272-1505. The examiner can normally be reached on M-F, 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KMB
April 27, 2006


Kevin M. Bernatz, PhD
Primary Examiner